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ABSTRACT

The paper provides an overview of the current national state-of-the-art in vocational education programing for handicapped individuals. Past and present practices are reviewed, emerging trends are noted, and future problems and challenges that need to be addressed are examined. (Author/SBH)

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A REVIEW AND ANALYSIS OF VOCATIONAL EDUCATION PROGRAMMING FOR HANDICAPPED INDIVIDUALS IN THE UNITED STATES[1]

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Introduction

This paper will provide an overview of the current national state-of-the-art in vocational education programming for handicapped persons. In recent years there has been a proliferation of literature emerge in the fields of special education, vocational education, and rehabilitation regarding vocational or career-oriented education programs serving handicapped individuals at the secondary and post-secondary level. This increased attention is due, in part, to the recent Federal legislation which has focused on insuring appropriate vocational education and employment opportunities for handicapped individuals. Since the final rules and regulations for these Federal legislative mandates have been released within the past two years, it is appropriate that a review of the development of vocational education efforts to date be compiled. To aid in this task, the following paper is intended to assist educators from other nations and the United States in: (1) reviewing past and present practices, (2) noting trends which have emerged, and (3) examining future problems and challenges that need to be addressed.

[1]Paper delivered at the First World Congress on Future Special Education, University of Stirling, Stirling, Scotland, June 29, 1978.

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Employment and Educational Barriers

Historically, the handicapped individual has encountered numerous problems in obtaining employment. The impact of these barriers is clearly reflected in an analysis of the 1970 census data by the President's Committee on Employment of the Handicapped (1975). The analysis revealed that non-institutionalized handicapped people in the U.S.:

1. Have had less schooling than the non-handicapped. Fourteen percent more handicapped than non-handicapped never got beyond the eighth grade.
2. Have had lower earnings than the non-handicapped. Fourteen percent fewer handicapped than non-handicapped men had earnings that exceeded $7,000.
3. Have a higher incidence of low poverty status than the non-handicapped. Fifteen percent of the handicapped are in the lowest poverty strata as compared with eight percent of the general population.
4. A far greater proportion of the handicapped than the non-handicapped are not in the labor force. Forty-two percent of the handicapped are employed, compared with 59 percent of the total population.
5. Represent about one out of eleven Americans. Approximately 9.3 percent of all persons between the ages of 16 and 64 have a disability or handicap for at least six months.

The barriers to meaningful employment are the result of a number of factors, including unemployment rates, employer and societal attitudes, and governmental policies. However, perhaps the most significant barrier is limited education, and specifically vocational education. The U.S. Office of Education estimates that approximately 11-12% of school-age youth (ages 6-17) in the U.S. are handicapped. In 1974-75, however, the handicapped comprised less than 1.7% of the students enrolled in vocational education (Lee, 1976).

Legislative Developments

Recent federal legislation in the U.S. has focused on equalizing and maximizing educational employment opportunities for the handicapped and other special populations. While federal legislation for vocational education has existed since 1917, it was not until 1968 that a clear mandate for serving the handicapped in vocational education was provided. The 1968 Vocational Education Amendments required States to spend a minimum of 10% of their federal funds on training for the handicapped. The recently enacted 1976 Vocational Education Amendments reflect an even greater commitment to including handicapped learners in vocational education. Under the new legislation states receiving vocational education funds must now meet many of the provisions contained in Public Law 94-142, including:

1. Give assurances that federal vocational set-aside monies for the handicapped will be used in a manner consistent with the goals of Pub. L. 94-142. The state plan for vocational education must be consistent with the state plan for education of the handicapped.
2. Give assurances that the handicapped (and other special needs groups) have equal access to the programs and services available to the non-handicapped.
3. Describe programs and services to be provided for the handicapped in annual and five year state plans.
4. Expend 10 percent of their basic state grants on the handicapped and match these federal monies on a 50/50 basis.
5. Insure representation of the handicapped on national and state vocational advisory councils for vocational education (Hull, 1978).

It is important to note the similar emphases in special education and rehabilitation legislation. Under the final rules and regulations for the

Education of All Handicapped Children Act of 1975 (P.L. 94-142), vocational education is incorporated within the definition of special education. This permits the funding of vocational education programs and services with special education funds in addition to the setaside vocational education funds. Section 503 of the Rehabilitation Act (P.L. 93-112) now requires that employers who have contracts with the federal government must develop and implement affirmative action plans to recruit and employ qualified handicapped persons.

The basic provisions of P.L. 94-142 (e.g., the development of individual education programs, placement in the least restrictive environment, etc.) are having a significant effect upon both regular and special vocational education programs. For the first time, most vocational teachers are becoming heavily involved in individual program planning and collaboration with special education personnel.

The Nature and Structure of Vocational Education

In the U.S. vocational education is most frequently defined as job skill training. The 1976 Amendments, however, broadened the definition considerably:

> Vocational education means organized educational programs which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career requiring less than a baccalaureate or advanced degree.

The curriculum content is based largely upon an analysis of specific occupational skills. In most states students are required to choose between an academic course of study and a vocational course of study in the ninth or tenth grade. Large area vocational schools are operated in most states, and are supported by funding from several nearby school districts.

The basic orientation found in the vocational education process is to prepare an individual for an occupation for which s/he has expressed a desire to enter. This orientation frequently tends to run counter to the human development orientation which is predominant in the field of special education. While the human development orientation emphasizes maximizing an individual's potential, the occupational orientation suggests that the first priority concern is to fit individuals into technologically defined work roles. Resolution of the differences between these two orientations appears to be critical to the successful inclusion of handicapped learners in vocational education. Vocational educators must be able to recognize and accept the premise that an important purpose of vocational education is to increase individual options (Evans and Herr, 1978). Similarly, special educators must recognize the critical need for secondary and post-secondary handicapped students to leave with marketable occupational competencies.

Programming Models

To date, programs and services have generally been delivered in two environments: regular vocational classes and special classes or programs. As noted earlier, the Olympus study found that nearly 70% of the local programs which they surveyed and reviewed were special programs where students were segregated from non-handicapped students for their vocational education experience.

The introduction of the least restrictive environment provision has caused some state departments of vocational education to examine a series of alternative environments for delivering vocational instruction. The Michigan Department of Education has formulated a series of six vocational alternatives and tied the alternatives to specific categories of federal and state funding.

Figure 1 describes each of the possible programming models to be used by local districts. The funding base for each of the alternatives draws funds from vocational education, special education, and vocational rehabilitation. This necessitates an effective interagency agreement between the various agencies involved.

Enrollment Trends

Lee (1976) reports that in 1974-75, only 266,744 handicapped students were enrolled in vocational education. Of these students, the vast majority (75.4%) were enrolled at the secondary school level. Less than 33,000 (12.2%) were enrolled in post-secondary vocational education programs, and only 32,906 (12.3%) were enrolled in adult-level vocational education.

The most recent national assessment of vocational education programs for the handicapped was completed in 1974 by the Olympus Research Corporation (1974). They studied 74 local programs in 19 states and drew some interesting conclusions (p. 210):

1. Nearly 70% of the programs were separate, special programs, indicating that integration of the handicapped with regular students was still more a goal than a reality.
2. Seventy-seven percent of the enrolled students were classified as mentally retarded. Of these, 12% were classified as trainable mentally retarded. The incidence rate of mental retardation in the programs studied was much higher than the national incidence figures.
3. Sixty percent of the students in the programs were men, 55 percent were white, 37 percent black, and the remaining 8 percent Spanish-surnamed, Oriental, and American Indian.

Figure 1

Vocational Alternatives Available
for the Handicapped*

Regular Vocational Education	Programming for all handicapped students who can benefit from the placement. Intended for all students who are receiving non-instructional special education services (speech, social work, occupational therapy, or special materials).
Adapted Vocational Education	Regular vocational programs are altered to accommodate special education eligible students who could not otherwise be placed in the program. This alternative may be needed for handicapped persons assigned to special education resource rooms who need adapted instruction.
Special Vocational Education	Training is usually of a semi-skilled nature (custodial training, etc.) or introductory skills training designed to provide prerequisite skills for entry into a regular vocational education sequence or to provide entry-level job skills. Usually limited to students in self-contained special education programs.
Individual Vocational Training	Training in special programs (CETA, apprenticeship, etc.) approved by a governmental agency, or a unique individual training program designed to fit a handicapped student's special interests and not generally available in the geographic area.
Prevocational Evaluation Services	A service designed for students whose disability precludes the use of the regular education sequence for obtaining vocational assessment. This is a diagnostic service and not an instructional program
Work Activity Center Services	A program designed exclusively to provide work therapy for impaired persons whose handicap is so severe as to make their productivity capacity inconsequential.

. . . number of students . . .

. . . mildly handicapped

. . . severely handicapped

*Adapted from: Michigan Department of Education. Michigan Inter-Agency Model and Delivery System of Vocational Education Services for the Handicapped, Lansing: Author, undated.

The 74 programs that were studied had a total 1973-74 handicapped enrollment of 9,350. Surprisingly, 65 percent of these students (6,118) were enrolled in non-skills courses, that is courses that were not designed to deliver occupational competencies. Over half of these students (3,387) were enrolled in prevocational courses. Others were enrolled in "non-gainful home economics", travel training courses, diagnostic centers, etc. Such non-skills courses are important for students as they prepare to enter vocational education (skills training). However, enrollment in courses like prevocational education and evaluation centers for extended periods of time will not provide students with the technical competencies needed to obtain employment.

The students who were enrolled in skill training courses were predominantly found in trade and industrial education courses (e.g. welding, auto mechanics, cosmetology). Sixty-four (64) percent of the students were in this area. Nine percent were enrolled in health occupations (nurses aide, child care, etc.). The general business and agriculture curriculums followed with each having 7 percent of the skill training enrollment.

Personnel Development

The inservice and preservice training of personnel to meet the vocational education needs of handicapped learners has emerged as a significant priority in both fields of vocational education and special education (Phelps and Clark, 1977). Having an adequate supply of teachers with appropriate skills, information, and attitudes is quite obviously a necessary first ingredient for expanding or improving programs and services. To date, it appears that most vocational/special needs teacher education activities have been targeted toward inservice audiences. Sessions related to serving special students in vocational or prevocational education appear in nearly all national,

statewide, or regional conferences on vocational education and special education. Articles addressing various aspects of the topic frequently appear in the professional journals. In the past two years, three national and several regional conferences have been held to provide inservice education for over 300 vocational and special education teacher educators and state education department officials. In addition, a large number of inservice modules, resource guides, and handbooks have been developed and published.

It should also be noted that in the past three years, both of the major national professional organizations (the American Vocational Association and the Council for Exceptional Children) have spawned new divisions that are specifically concerned with the career development needs of special groups. Both organizations provide national newsletters and will soon be launching quarterly journals related to vocational/special needs.

The most significant area of need appears to be in preservice teacher education. In a recent national survey of teacher education programs. Brock (1977) received responses from 113 universities and colleges. Only 25 schools (22 percent) reported existing programs which trained vocational/special education personnel. State teacher certification officials were also surveyed. Eight states now require special education preparation (courses) for teacher certification in all fields. Brock notes that this trend is likely to continue, but cautions that:

> Most educators would agree that a two or three credit course does not provide sufficient time to adequately prepare teachers to work with special needs students. However, a closer alignment of needed teacher competencies could be provided by developing and offering "mainstreaming" competencies as opposed to a general survey course (1977, p. 23).

Student Outcomes and Costs

One of the major problems confronting educational administrators and decision-makers in vocational education is the lack of student outcome and cost data which could provide important insights into program effectiveness. To illustrate, the Olympus Research Corporation study utilized sophisticated sampling procedures to systematically select 74 local programs for indepth study. Of the 74 programs, only 25 could provide programmatic cost information, and only 20 were able to provide any student follow-up or placement data.

In the 25 programs with cost information available, 1,456 of the 2,749 (53%) students enrolled had completed the program during the 1973-74 school year. The total federal, state, and local dollars expended for these students was approximately $3.5 million. The total annual cost for each completing student was calculated to be $2,398. The federal share of that was $871 per completer (p. 224).

The retention and employment rates of vocational education programs for the handicapped appeared to be excellent in the Olympus study. For the 2,009 students for which follow-up information was available, only 6 percent dropped out. Fifty-seven percent completed, and 48 percent of these completers were placed in jobs, 58 percent of which were training related. Also, approximately 37 percent of the students completing the program re-enrolled in regular vocational education courses or other appropriate courses (p. 224).

Parent and Employer Satisfaction

Parents and employers of handicapped students who have completed vocational education programs tend to view the programs favorably. The Olympus national assessment study interviewed over 1000 parents in five

states and found that 76 percent viewed the programs as either "excellent" or "good". Two out of three parents noted improvements in their child's self-image, self-reliance, and social mixing ability since the children had begun participating in the program. The students held similar positive assessments of the program in which they had participated. They liked the people with whom they were associated and the training they had received. They considered the environment generally favorable in terms of teachers, classmates, and working conditions. The classes were not considered boring and the tools and equipment were perceived as relatively easy to operate.

The interviews with parents and students also revealed some interesting attitudes on the part of students toward different types of programs. Students in regular vocational classes were more apt to express favorable opinions regarding their relationships with teachers and classmates, yet they were more apt to be bored than students in special classes. Students in sheltered workshops expressed above-average dislike for working conditions, instructors or supervisors, and their fellow workers. Yet these students were less apt to be bored than their counterparts in other classes.

Interviews with employers (N=240) in the five states revealed that those employers who had hired handicapped students held favorable attitudes toward the vocational education program. When asked to compare these individuals to non-handicapped workers, 43 percent of the employers indicated they were better able to take directions. Thirty-four percent of the employers said they were more interested in their work, and 31 percent indicated they were more punctual and reflected a more positive attitude than other employees (p. 180).

Analysis

In recent years there has been a substantial growth in the numbers of handicapped students served in vocational education. This was largely due to the Vocational Education Amendments of 1968, and will certainly be expanded under the new legislation (i.e. P.L. 94-482, P.L. 94-142, and Section 504). As the goal of providing educational opportunities to all handicapped individuals is approached, increasing emphasis must be given to the quality and appropriateness of those opportunities. Vocational education has much to contribute to the personal and vocational development of handicapped individuals. However, to maximize that contribution, it is imperative that vocational educators and the rest of the educational community:

- Expect more from handicapped persons than in the past by assuming that most can succeed in education and careers if given appropriate opportunities.
- Improve instructional experiences by moving toward individualized, self-paced, competency-based instruction.
- Improve communications between handicapped and non-handicapped individuals. Seek and listen to each other's input in an open and supportive manner (Phillips, et al, 1977).
- Cooperate and communicate effectively between professionals from different fields to enhance the delivery of services to individual learners.
- Actively recruit handicapped individuals as students and colleagues through public information programs.
- Formulate and implement systems for data collection that will aid the field in continuously evaluating the extent and quality of

programs and services provided. Active efforts to strengthen and expand can then be appropriately justified.

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